

Remarks

Claims 1-8, 10-15, 27, 29-32, and 34-41 were pending in the above-identified application. By way of the present amendment, Applicants have amended claim 27 and cancelled claims 12, 37 and 38. No new claims have been added. Claims 1-8, 10-11, 13-15, 27, 29-32, 34-36 and 39-41 are therefore currently pending and under examination. The amended claims do not introduce new matter, and should not require an additional search by the Examiner. Applicants respectfully request entry of the amendments, and favorable reconsideration and allowance of the claims in view of the remarks provided herein.

Claim Rejections - 35 USC §112

Claims 1-8, 10-15, 29-32, and 34-41 were rejected under 35 USC §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. More specifically, it is asserted that the metes and bounds of the claims are called into question by the introduction of claim 38, which recites the use of conventional nucleating agents. Applicants have canceled claim 38, rendering the rejection moot.

It is further asserted that the metes and bounds of claims 1 and 27 are called into question by claim 12, which recites polyethylene and polymethyl methacrylate. Applicants have also canceled claim 12, rendering this rejection moot as well.

Accordingly, Applicants respectfully request that the rejection of claims 1-8, 10-15, 29-32 and 34-41 under 35 USC §112 for indefiniteness be withdrawn.

Claim Rejections - 35 USC §103

Claims 27, 29-32, 34-36 and 41 were rejected under 35 USC §103(a) as being unpatentable over Lee *et al.* in view of Fukushima *et al.* More specifically, it is asserted that Lee *et al.* teach the basic claimed process of producing a foam product comprising incorporating a nanocomposite such as a nanoclay, and that Fukushima *et al.* teaches a method of employing graphite nanoparticles, and that the combination renders claims 27, 29-32, 34-36 and 41 obvious.

Applicants respectfully traverse the rejection. However, in the interest of furthering prosecution, Applicants have amended claim 27 to recite an average cell size between 60 μm and 120 μm , as found in claim 37 (now canceled), which was not rejected over the combination of Lee *et al.* and Fukushima *et al.* Neither Lee *et al.* nor Fukushima *et al.* describe preparation of a foam product having an average cell size between 60 μm and 120 μm . Accordingly, Applicants respectfully request that the rejection of claims 27, 29-32, 34-36 and 41 under 35 USC §103(a) as being unpatentable over Lee *et al.* in view of Fukushima *et al.* be withdrawn.

Claims 1-8, 10-15, 27, 29-32 and 34-41 were rejected under 35 USC §103(a) as being unpatentable over Chaudhary *et al.* in view of any one of Fukushima *et al.*, Chen *et al.*, Jang *et al.*, or Glicksman *et al.* More specifically, it is asserted that Chaudhary *et al.* teach the basic claimed process of producing a closed cell foam, and suggest the inclusion of additives such as graphite, and that Fukushima *et al.*, Chen *et al.*, Jang *et al.*, and Glickman *et al.* teach various forms of graphite suitable for use in foams material. Applicants respectfully traverse the rejection.

The claims of the present invention recite a foam product having an average cell size between 60 μm and 120 μm . This reflects a significant aspect of the present invention, which is to “produce a foam product having a desired cell morphology, characterized by parameters such as reduced average cell size” (abstract). Chaudhary *et al.*, on the other hand, “describes a method for enlarging cell sizes of alkenyl aromatic foams” (column 1, lines 17-18) and state that “it would be desirable to identify cell size enlarging compounds which can be used in conjunction with non-ozone depleting blowing agents” (column 2, lines 53-55). In particular, Chaudhary *et al.* are seeking to avoid a “problem with using the above ozone-depleting blowing agents [which] is their tendency to form foams of relatively small cell size” (column 2, lines 7-9). Furthermore, Chaudhary *et al.* do not attempt to solve the problem of controlling cell size (increasing it, in their case) through choice of a particular nucleating agent, but rather they make use of interpolymers to control cell size, which further teaches away from the use of particular nucleating agents to control cell size. One skilled in the art would therefore not be reasonably expected to use Chaudhary *et al.* as a starting point for developing rigid foam products having a

reduced cell size through combination with references describing particular forms of graphite nanoparticles. Accordingly, because Chaudhary *et al.* teach away from preparing a polymer foam having a reduced cell size, Applicants respectfully request that the rejection of claims 1-8, 10-15, 27, 29-32 and 34-41 under 35 USC §103(a) as being unpatentable over Chaudhary *et al.* in view of various references teaching forms of graphite be withdrawn.

Entry of the amendment is within the discretion of the Examiner and is respectfully requested. In view of the above-described amendments and remarks, Applicant submits that claims 1-8, 10-11, 13-15, 27, 29-32, 34-36 and 39-41 are in condition for allowance, and respectfully requests same. The Examiner is asked to contact the undersigned at the phone number listed below if there are any questions regarding the amendments or remarks.

Respectfully submitted,

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